

REMARKS

The Office Action mailed July 2, 2009, and made Final, has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

The objection to the title of the application is respectfully traversed. Applicants have amended the title to recite "METHODS AND SYSTEMS FOR MONITORING AND DIAGNOSING MACHINERY BY INCREMENTALLY TESTING A RULE" as suggested by the Examiner. As such, Applicants respectfully request withdrawal of the objection to the specification.

The rejection of Claims 1 and 10-13 under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Publication No. 2004/0243530 to Al-Attar et al. (hereinafter referred to as "Al-Attar") is respectfully traversed.

Al-Attar describes a process development system 4 that includes a performance improvement rule generation module 9 for use in generating a performance improvement rule set, for at least one process factor from a generated rule set for each process factor. Each rule includes a plurality of decision points that correspond to split variables relating to process conditions and to a plurality of outcomes. The performance improvement rule generation module 9 is configured, for each rule in each generated rule set, to attach an activity flag at each decision point, thus generating a performance improvement rule. The activity flag has one of two values indicative of whether the respective split variable is alterable or non-alterable by a process operator. The two values enable operation of the performance improvement rule in determining which of the outcomes is attainable for given process conditions. Notably, Al-Attar does not describe nor suggest testing a rule with a test that includes a plurality of incremental steps to be performed before determining an asset output and displaying incremental results after each of the plurality of incremental steps are completed, wherein each of the incremental results includes a numerical value corresponding to an intermediate value of a test result.

Claim 1 recites a computer-implemented method of managing a machinery monitoring system, wherein the method comprises "relating an asset output to at least one asset input wherein the at least one asset input includes at least one of a measured process

parameter relatable to the asset output; generating at least one rule based on the relation wherein the at least one rule defines the asset output based on the at least one asset input; selecting at least one of live asset data, historical asset data, user-supplied asset data, and third party supplied asset data; to test the at least one rule; testing the at least one rule incrementally using the selected asset data and by comparing each asset output to each respective expected asset output, wherein the test comprises a plurality of incremental steps to be performed; determining an expected asset output for the selected data after the plurality of incremental steps are performed; monitoring the asset output of the at least one rule at each increment; displaying incremental results after each of the plurality of incremental steps are completed, wherein each of the incremental results includes a numerical value corresponding to an intermediate value of a test result; and outputting the test result.”

Al-Attar does not describe nor suggest a computer-implemented method of managing a machinery monitoring system as is recited in Claim 1. More specifically, Al-Attar does not describe nor suggest testing a rule with a test that includes a plurality of incremental steps before determining an asset output and displaying incremental results after each of the plurality of incremental steps are completed, wherein each of the incremental results includes a numerical value corresponding to an intermediate value of a test result. Rather, in contrast to the present invention, Al-Attar merely describes a rule verification module that includes a rule test sub-module that uses an extracted data set to satisfy that each rule is satisfied by the extracted data set.

The Action asserts that Al-Attar describes a rule including a plurality of decision points, a plurality of outcomes, and an activity flag at each decision point, and therefore describes displaying incremental results. Applicants respectfully disagree with such an assertion. However, even if such assertions are true, Al-Attar still fails to describe or suggest each and every feature of amended Claim 1. At best, Al-Attar describes a rule decision base tree (see Figures 2 and 3 of Al-Attar) that includes several decision points that provide multiple outcomes. However, such “decision points” are based on acquired data from a user or a database and are not computed data. Moreover, such data is not displayed to a user after the completion of each decision point. But rather, the only data shown to a user after completion are the multiple outcomes (the alleged “asset output”). In contrast, Claim 1 recites a test that includes a plurality of incremental steps that are performed before

determining an asset output, wherein incremental results are displayed after each of the plurality of incremental steps are completed, wherein each of the incremental results includes a numerical value corresponding to an intermediate value of a test result. More specifically, as recited, each incremental step result of the test leading up to a final result is displayed.

Accordingly, Claim 1 is submitted as being patentable over Al-Attar.

Claims 10-13 depend from independent Claim 1. When the recitations of Claims 10-13 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 10-13 likewise are patentable over Al-Attar.

For the reasons set forth above, Applicants respectfully request that the Section 102 rejection of Claims 1 and 10-13 be withdrawn.

The rejection of Claims 2-9 and 14-42 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Al-Attar in view of U.S. Publication No. 2006/0265689 to Kuznetsov et al. (hereinafter referred to as "Kuznetsov") is respectfully traversed.

Al-Attar is described above.

Kuznetsov describes a computing system environment 100 that includes a computer network 101, such as the Internet, that interconnects and allows communications between a markup language processing device 120 and one or more client computer systems 130. Kuznetsov further describes a server computer system 10 in communication with a mark-up language processing device 120 via network 102, that may be a local area network (LAN) associated (e.g., under management of) an organization that controls server computer systems 110 (as well as the mark-up language processing device 120). The server computer system(s) 110 and client computer system(s) 130 may be any number and type of computerized devices such as a personal computers, workstations, server computer systems, dedicated devices (e.g., portables, PDA's) or the like. Notably, Kuznetsov does not describe nor suggest testing a rule with a test that includes a plurality of incremental steps to be performed before determining an asset output and displaying incremental results after each of the plurality of incremental steps are completed, wherein each of the incremental results includes a numerical value corresponding to an intermediate value of a test result.

Claims 2-9 depend from independent Claim 1 which is recited above.

No combination of Al-Attar and Kuznetsov describes nor suggests a computer-implemented method of managing a machinery monitoring system as is recited in Claim 1. More specifically, no combination of Al-Attar and Kuznetsov describes nor suggests testing a rule with a test that includes a performing plurality of incremental steps before determining an asset output and displaying incremental results after each of the plurality of incremental steps are completed, wherein each of the incremental results includes a numerical value corresponding to an intermediate value of a test result. Rather, in contrast to the present invention, Al-Attar merely describes a rule verification module including a rule test sub-module that utilizes an extracted data set to satisfy that each rule is satisfied by the extracted data set, and Kuznetsov merely describes a computing system environment that includes a computer network, such as the Internet, that interconnects and allows communications between a markup language processing device and one or more client computer systems. Accordingly, for at least the reasons set forth above, Claim 1 is submitted to be patentable over Al-Attar in view of Kuznetsov.

In addition, the Action asserts that Al-Attar describes a rule including a plurality of decision points, a plurality of outcomes, and an activity flag at each decision point, and therefore describes displaying incremental results. Applicants respectfully disagree with such an assertion. However, even if such assertions are true, Al-Attar still fails to describe or suggest each and every feature of amended Claim 1. At best, Al-Attar describes a rule decision base tree (see Figures 2 and 3 of Al-Attar) that includes several decision points that provide multiple outcomes. However, such “decision points” are based on acquired data from a user or a database and are not computed data. Moreover, such data is not displayed to a user after the completion of each decision point. But rather, the only data shown to a user after completion are the multiple outcomes (the alleged “asset output”). In contrast, Claim 1 recites a test that includes a plurality of incremental steps that are performed before determining an asset output, wherein incremental results are displayed after each of the plurality of incremental steps are completed, wherein each of the incremental results includes a numerical value corresponding to an intermediate value of a test result. More specifically, as recited, each incremental step result of the test leading up to a final result is displayed.

Accordingly, Claim 1 is submitted as being patentable over Al-Attar in view of Kuznetsov for these additional reasons.

When the recitations of Claims 2-9 are considered in combination with the recitations of Claim 1 as detailed above, Applicants submit that dependent Claims 2-9 are patentable over Al-Attar in view of Kuznetsov.

Claim 15 recites a computer-implemented machinery monitoring system for a plant, the system including a client system further comprising "a user interface; a database for storing Rule Sets, wherein the Rule Sets include at least one rule expressed as a relational expression of a real-time data output relative to a real-time data input that includes at least one of a measured process parameter and a derived process parameter relatable to the real-time data output, wherein the relational expression is specific to a plant asset, and a processor programmed to control said machinery monitoring system to, said processor manager programmed to prompt a user for a security control password; generate a plant asset operational rule from an application expert wherein the operational rule defines the real-time data output based on the at least one real-time data input; test said rule based on at least one of live asset data, historical asset data, user-supplied asset data, and third party supplied data, wherein the test includes comparing the real-time output to an expected real-time output, and wherein the test comprises a plurality of incremental steps to be performed; determine an asset output after the plurality of incremental steps are performed; display incremental results after each of the plurality of incremental steps are completed, wherein each of the incremental results includes a numerical value corresponding to an intermediate value of a test result; and output the test result."

No combination of Al-Attar and Kuznetsov describes nor suggests a computer-implemented machinery monitoring system for a plant as is recited in Claim 15. More specifically, no combination of Al-Attar and Kuznetsov describes nor suggests testing a rule with a test that includes a performing plurality of incremental steps before determining an asset output and displaying incremental results after each of the plurality of incremental steps are completed, wherein each of the incremental results includes a numerical value corresponding to an intermediate value of a test result. Rather, in contrast to the present invention, Al-Attar merely describes a rule verification module including a rule test sub-module that utilizes an extracted data set to satisfy that each rule is satisfied by the extracted

data set, and Kuznetsov merely describes a computing system environment that includes a computer network, such as the Internet, that interconnects and allows communications between a markup language processing device and one or more client computer systems. Accordingly, for at least the reasons set forth above, Claim 15 is submitted to be patentable over Al-Attar in view of Kuznetsov.

In addition, the Action asserts that Al-Attar describes a rule including a plurality of decision points, a plurality of outcomes, and an activity flag at each decision point, and therefore describes displaying incremental results. Applicants respectfully disagree with such an assertion. However, even if such assertions are true, Al-Attar still fails to describe or suggest each and every feature of amended Claim 15. At best, Al-Attar describes a rule decision base tree (see Figures 2 and 3 of Al-Attar) that includes several decision points that provide multiple outcomes. However, such “decision points” are based on acquired data from a user or a database and are not computed data. Moreover, such data is not displayed to a user after the completion of each decision point. But rather, the only data shown to a user after completion are the multiple outcomes (the alleged “asset output”). In contrast, Claim 15 recites a test that includes a plurality of incremental steps that are performed before determining an asset output, wherein incremental results are displayed after each of the plurality of incremental steps are completed, wherein each of the incremental results includes a numerical value corresponding to an intermediate value of a test result. More specifically, as recited, each incremental step result of the test leading up to a final result is displayed.

Accordingly, Claim 15 is submitted as being patentable over Al-Attar in view of Kuznetsov for these additional reasons.

Claims 16-28 depend from independent Claim 15. When the recitations of Claims 16-28 are considered in combination with the recitations of Claim 15, Applicants submit that dependent Claims 16-28 likewise are patentable over Al-Attar in view of Kuznetsov.

Claim 29 recites a computer program embodied on a computer readable medium for managing a machinery monitoring system using a server system coupled to a client system and a database, the client system including a user interface, the program comprising a code segment that prompts a user for a security control password and then “relates an asset output to at least one asset input that includes at least one of a measured process parameter and a

derived process parameter relatable to the asset output; generates a plant asset operational rule from an application expert wherein the operational rule defines an asset output based on at least one asset input; tests said rule based on at least one of live asset data, historical asset data, user-supplied asset data, and third party supplied data wherein the testing includes comparing the asset output to a respective expected asset output, wherein the test comprises a plurality of incremental steps to be performed; determines an asset output after the plurality of incremental steps are performed; displays incremental results after each of the plurality of incremental steps are completed, wherein each of the incremental results includes a numerical value corresponding to an intermediate value of a test result; and outputs said results of said test.”

No combination of Al-Attar and Kuznetsov describes nor suggests a computer program as is recited in Claim 29. More specifically, no combination of Al-Attar and Kuznetsov describes nor suggests testing a rule with a test that includes a performing plurality of incremental steps before determining an asset output and displaying incremental results after each of the plurality of incremental steps are completed, wherein each of the incremental results includes a numerical value corresponding to an intermediate value of a test result. Rather, in contrast to the present invention, Al-Attar merely describes a rule verification module including a rule test sub-module that utilizes an extracted data set to satisfy that each rule is satisfied by the extracted data set, and Kuznetsov merely describes a computing system environment that includes a computer network, such as the Internet, that interconnects and allows communications between a markup language processing device and one or more client computer systems. Accordingly, for at least the reasons set forth above, Claim 29 is submitted to be patentable over Al-Attar in view of Kuznetsov.

In addition, the Action asserts that Al-Attar describes a rule including a plurality of decision points, a plurality of outcomes, and an activity flag at each decision point, and therefore describes displaying incremental results. Applicants respectfully disagree with such an assertion. However, even if such assertions are true, Al-Attar still fails to describe or suggest each and every feature of amended Claim 29. At best, Al-Attar describes a rule decision base tree (see Figures 2 and 3 of Al-Attar) that includes several decision points that provide multiple outcomes. However, such “decision points” are based on acquired data from a user or a database and are not computed data. Moreover, such data is not displayed to

a user after the completion of each decision point. But rather, the only data shown to a user after completion are the multiple outcomes (the alleged "asset output"). In contrast, Claim 29 recites a test that includes a plurality of incremental steps that are performed before determining an asset output, wherein incremental results are displayed after each of the plurality of incremental steps are completed, wherein each of the incremental results includes a numerical value corresponding to an intermediate value of a test result. More specifically, as recited, each incremental step result of the test leading up to a final result is displayed.

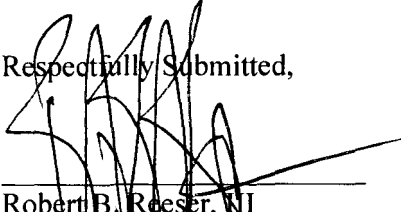
Accordingly, Claim 29 is submitted as being patentable over Al-Attar in view of Kuznetsov for these additional reasons.

Claims 30-42 depend from independent Claim 29. When the recitations of Claims 30-42 are considered in combination with the recitations of Claim 29, Applicants submit that dependent Claims 30-42 likewise are patentable over Al-Attar in view of Kuznetsov.

For the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 2-9 and 14-42 be withdrawn.

In view of the foregoing remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Applicants do not believe any fees are due in connection with this amendment; however, the Commissioner is hereby authorized to charge any fees which may be required to Deposit Account No. 012384 in the name of ARMSTRONG TEASDALE LLP.

Respectfully Submitted,

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